

FIGURE 1

ATGGCGCGGGCGGACACGGCGGGCTCTGGTGTGACCTTCGCCTGCTGTCCGCG 60
 CGCGGGAGCTGCCATTGCCCCAGGAGACAACCTGCAACTGAGCTGTATGAGGGACCC 120
 CTGCAAGTGATCTGGGCCCTGAGCAGGCTGTGGTGTGACTGCACCTTGGGGCTACA 180
 GCTGCTGGGCCTCGACCAGGGTACATGGAGCAAGGGATGGAGACACTGTACTAGAGCAT 240
 GAGAACCTGACCTGCTACCCATGGCTCCCTGTGGCTGTCCCTACCCCTAGAGCAAGAA 300
 GACAGCGATGAGGAAGCTTAGGATCTGGAGGTCACTGAGGGCAGCTATTCCGT 360
 CTGGCCCACAGCCGCTAGGAGTGGTGGCCAGCCAGGGTGTGCAAGCTGCCACA 420
 CTCGAAGACTTCTCTGACCCCGAGTCCAGATTGTGGAGGAGAACGGGACAGCACGC 480
 TTTGAATGCCACACCAAGGGCTTCAGGCTCATCCTTCCAAGTGGCTCTCCAGATCTTAGAT 540
 ACCGTGCCAGGAGGCCCCGGCTCATCCTTCCAAGTGGCTCTCCAGATCTTAGAT 600
 GTCCAGGACAGTGATGCAAGGTCTTCCAGGGCCACCAATTAGCCCAACGAGGTG 660
 TTCAGCAGGAGGCCCTGCTCACTGTGGCCCTCAGAGGGTCTTGGAGGCTACAGGGG 720
 CAGGATGTGGTCAATTGTGGCAGGCCAGAGAACACACGGTAGTGTGTGGACAGAATGTA 780
 GTGATGGAGTGGTGGCTCTGCTGACCCACCCCTTTGTGTCTGGGTCCGACAGGAT 840
 GGAAAGCCTATCCACGGATGTCATGGTCTGGCCGGACCAATCTACTCATGCCAGC 900
 GCGAGCCTCGCACTCTGAGTCTAGTGTGTGGCCCTCAGAGGGCAACAGCCCTACGCGTGA 960
 TTCGCCACTGGCTGCTGAGCTCGAGTGCTGCTGCCCCAGCCATCTCGCAGGCACCC 1020
 GAGGGCCTCGGGACGGGGCCAGCACCGCGCTCGTGCACGGGATCCGTTGCAACAGGGCGTC 1080
 CCACGGCCCGGCTGCACTGGCTGACGGGACTGGTGTACTCAGATGCCCTGCAAGCGCTGGC 1140
 AAGGTGCAGGGGGTGGCGCAGCTGGTGTACTCAGATGCCCTGCAAGCCACGGGCTGGG 1200
 TACTACAGTGCAGAGAAAACAGGGGGGAGCAGCTGGCCAGGGCCGACTGGTGTGAGG 1260
 GTAGTGGTGGCTGGCTGGCTGGAGGGCTGAGTTGACAGCGAGCAATCATTGGC 1320
 AGCTCCTCTGACTACAAAAGGCAAGGGAGTGGACAATGTGGAGTACCAAGTTGCAGTA 1380
 TTCTCTTCACTACCAAAAGGCAAGGGAGTGGACAATGTGGAGTACCAAGTTGCAGTA 1440
 AACAAATGACACCAAGAGCTGCAAGGTTGGGACCTGGAACCCAAACGGATTATGAGTT 1500
 TACGTGGTGGCTACTCCACGGTGGGGCCAGCCAGCTTACCTTGTGCAAGCCAGGGCTGGTCAT 1560
 ACACGGACGATGTCCCCAGCGCAGCACCCAGCTTACCTTGTGCAAGCCACGGGCTGGG 1620
 GACATCAGGGTGCATGGCTGCCCTGCCCTCAGCCTGAGCAATGGACAGGTGCTGAAG 1680
 TACAAGATAGAGTACGGTTGGGGAGGAAGATCAGGTTTCTCCACCGAGGTGCTGGA 1740
 ATAGGAGACACAACCTTACGGTTAAACTACTCAGCCAAACAAAGTGTACCGAGTCCGGATT 1800
 TCAGCTGGCACTGGCGCTGGCTATGGAGTCCCTCTCAGTGGATGCAAGCAGGACACCT 1860
 GGTGTGCACAACCAGAGGCCATGTTCCCTTGGCCCTGAGAAATTGAAGGTGAGGGCAAAG 1920
 ATGGAGTCCCTGGTGGTGTATGGCAGCCGCCCCCTCACCCACCCAGATCTGGATAC 1980
 AAACACTACTGGGAGAGGTGGGACAGAGGGAGGGAGGAGGAGCTGGTACGGGCCCCAGGG 2040
 GGTGTGGAGATCAAGCTGGGACGTCGGCCCGTGGCTGAAGAAGAAAGTGAAGCAG 2100
 TATGAACTGACCCAGTTAGTCCCTGGCAGGGCTACGAGGTGAAGCTGTAGCTTCAAC 2160
 AAACACGAGGACGGCTACGCTGCTGTGTGGAGGGCAAGACGGAGAAGGGGCCACCCA 2220
 GACCTGCCATCCATTGGCTTCGGTGGAGGGCAACAGGGAGGGAGGAGCTGGTACGGAGT 2280
 AACTACACTGTACGCTCGGCCCCCTGGGGCTCAGGAATGCTCCCTGGTCACCTACTAT 2340
 ACCAGCTGGAGAACACATTCTCATGGGGCTCAGGAATGCTCCCTGGTCACCTACTAT 2400
 GCGGTACAGTCCACGGAGTGGATATGGATGGGGCTTGGCTCCGCTGAGCCCCCTGACACCA 2520
 ACCCTGCTGACGGGCTTCAACACCTCTGGCTCAGGAATGCTCCCTGGTCACCTACTAT 2580
 TCCACCGTTCGGTTACACTGGTCCCCCAGGGAGCCAATGGTGAAGATTGTGGAGTAT 2640
 CTAATTCTCTACAGCAACAACCACACCCAGGGAGCCAATGGTGAAGACTGCTCACCA 2700
 GAGGGAAACATCTCAGTGCAGAGGTCCATGGCTAGAGAGTGCACACTGGTATTCCTC 2760
 AAGATGGAGCCCCACAGAGGTGGGCTGGGCCCTTCCCGCTGAGGGATCATCGTG 2820
 ACTCTGCAAGAGACATTCTCAGACTCCTGGATGTGCACCCGTACGGGATCATCGTG 2880
 GGTGTCTGGCTGGCCCTGGGCTCCAGTGTCCCTGCTGCCATGAGTTGGAGTCCCTC 2940
 TCCACAGGAAGCCCTTCCGGATTGTCTCTCAGGACACCCAGGGAAACCCAGGGCT 3000
 TACACAAGAGCTGGCTGGCTCCAGTGTCCCTGCTGCCATGAGTTGGAGTCCCTC 3060
 GTGCATCTCGTCCCCAGGATTGGTCCCCACCCCTAGATGTGGAGAACAGGCTGAA 3120
 GTACACAGCCTATGGGTGGCAGTGGTTCAGATTGCGGGGCACTCCAAGAGAACAGATC 3180
 TCCTGGCTCAGGCAAGGGGGACAAACTGGCAGGCTCTGGCAGGCTGTGAGCTGCC 3240
 CAGGGTAGTGGTCAAGGGGGACAAACTGGCAGGCTCTGGCAGGCTGTGAGCTGCC 3300
 CCGTCCCCAGCCTGCAAGGAATCAGGTGGAGCTGAGGTGAGTGTCCACTCCGACTCGGT 3360
 GCATCAAAGGATGTCTGACCTCCACCTCAAGACCTGGAGCCAGAGGAACACTGACT 3420
 GCATCAAAGGATGTCTGACCTCCACCTCAAGACCTGGAGCCAGAGGAACACTGACT 3480

FIGURE 2A

GCAGAGACTCTGCCCTTCCACGCTGGAGCTGTGGATCTGTCATAAGGAGCAGACTGGCTG 3540
GGCAGGGAGCTGGAGGGTGCCAACCAACAACCAGTGGGCCAGAGAGGCTCACCTGCTG 3600
CCAGAAGCAGCCAGTGCCCTCTGCTCCTGCTCAGACCTCCAGCCAGCACTGCTATAGAG 3660
GAGGCCCTGGAAAAGCTGCCAGCCAAAGCCCTGTGCTCTAACAGTCAGCCAAAGC 3720
CTTCCCAGGGCCCTGTCTCTGCTCAGGCCCCGTAGCAGAAGGCAGATATGGCTCA 3780
GGAACATGCCATGGCATGGCTACACATGTGTACTAGAGATATCCATAAGTCCTGGAGC 3840
CTCTAGGGTCTTGGCTGGGAGAACTTTACTCTCCCTCATATTCTGCATCA 3900
CATACAGGAGGGACTTGAGAACAGCTCTGTGTAATGGACACGCTGTGAAGTCGTGTG 3960
GTGTGTGTGTGTGCTGGTGAGCTAGAAACCTCTCCCTATGTAGCACTCACTGTG 4020
GCCTAGTTGACCCCTCGTGCAGGATGGTAAACAGTGTACAGTGCAGCTTGTGAGCT 4080
TTTAGCCTGTACCTAGCCTTATTACACTCTGAGAGTGTCTCCAGTGCTGTCTAC 4140
AAAGACAGCGCCAGCCCTTCTGTCACTGGCTGAGCTGTGAGCAGAGTGCCTAACTCCAC 4200
GGGCCTATGACACCGCAGCTACCACAGCATGGCTGTCATCCCCCTGGCCTCTAAGGTC 4260
CAGATGTCGGTGAACCCAGCTCAGCTCCCCTCTGAGCATCTGTACCTAATT 4320
TTGTAATCTGGGAAGTGCCTGGTTGGAAATCTTCTTCGACCCCTGTCCTCTGTC 4380
CCTCCCTCATGATGCCCTGATTCCCTACTGCTGTTTCAATTCTGTCTGCCATG 4400
CTTGTCTTATGTCGTGTTCTGTCCTGAGTCAACCTATGCACCCCTCTAACA 4560
ACATGACTACCTCATGTCGTCAGACCATAGTGTGACCCCTGGTCCCCAGCTCC 4620
CTGCCAACCGCCTCTGGCAGATGAGCCACTCCAAGTAGATCTGGAAAAGACCTTG 4680
TGGCTGCTGGCTGCCCTCCCTGGTGTGAGATGAGAAGGTTCTATGGAAGAGAT 4740
GAGTCAGGCTGACAGGGGAACCCCAAGAAGGGTAGGGTAGTGAACCAAGAGGCTGA 4800
AAAAAAATGGCTGCCACCCATCTGCACAGAGAGATGGGTGTGCTTTGACGTGCAGTC 4860
CTGGCTGAAACTGAAGGGTAGGGAGGGAGCTACTGGGGCTGCCATGGCTCAGTTC 4920
CTGACCCCTGGAGCCCTGAACTGGCTCAGAGTAGCAAAGAGTTCCCTCAAGATGCTG 4980
AAGGGAAAGTCTTGCAAGGAAAAGGGCGCTGGCTATTATTTATCTTCTTACA 5040
CTGAATCCAAAATCATCTTACACAAAGGGCCAAGCCTGACTGGTATTCTGAGTCAC 5100
AAGAGCCATGCCATCTCTGGTTCTCACCTCAGTCATGTCCAGAATTGTCAAGTCCA 5160
GTGGCATCTGCTCTGCACTGGTGTGACATCTTCTATTTCACACTGGCTGGCACATCA 5220
AACTCTGGCTCTGGCCAAGTTAGAAAATAACAGTCTATTCCCTTATTATTTA 5280
TTTTATTTATTTATGCTTCTGAGTTGAGCTCTGAAAGCGTGTGTTATT 5340
AGCCTTGTGTCACTCATGTTGACCCACCCACATTCCCTCTCCCTCTCAGC 5400
CAGCCTATGATAACACTAAAGATTATAATGCTGGCTCGTATCTCATTAAAGACAGGAT 5460
TGTCACTTGAACACTCTATAGCATTCAAAGGGCCACGCCAACACCACCGTATGTT 5520
CTTCATTGCTCTGAAGGTCAAGAGCCTCATTTGTTCTGGTAGATTCTTCTCC 5580
TTGCCCTGAATGAAAATAACGTTAACAGTAGGCTCTAGCATCACACCACATAGTCAT 5640
TCCTCATGTTCTGTTAACAGCACTGGAGGTCTGGGTTAAATTAAAGCTGCAA 5700
TGAGACAATTATAACCCATTAGGCTGGGTGGAAAATTGTTCTCAAAGCAATAAGTAA 5760
TAAATCTGGTATGTTGGGTCTGAGTAACGGGAGTGTAGCTTGTGACTTTGAGCACC 5820
TTATATATGATTGGGGTCTGAGTAACGGGAGTGTAGCTTGTGACTTTGAGCACC 5880
AGGTCTTATTAGGAAAGTCTGTTGCCCTTACAGGGCATTAGTCCCTTGTGTTG 5940
ATGGATGCCCTTAAGTCTTGGAGTCTCATTAAGAATTCTTCTGAAGCATGACAA 6000
GTGTATCGCAATACTACATGCTCACTCGTTACCTGGCTAGTTGTGCTGGGTTATT 6060
AATTGCACCTCCAGCATCATGCTCCCTACAAATGATATTCTTATTGTTACAC 6120
TAAGGTGTGATCATGATCTGCTCTGAAAGAATTAAACTATTCCAGAC 6176

FIGURE 2A

10 20 30 40 50 60 70 80

MARADTGRGLLVLTFCLLSARGELPLPQETTVKLSCDEGPLQVLGPEQAVVLDCTLGATAAGPPTRVTWSKGDTVLEH
ENLHLLPNGSLWLSSPLEQEDSDDEALRIWKVTEGSYSCLAHSPLGVVASQAVVKLATLEDFLHPESQIVEENGTR
FECHTKGLPAPIITWEKDQVTVPPEPRILTLPKWLLQILDVQDAGSYRCVATNSARQRFSQEASLTVALRGSLEATRG
QDVVIVAAPENTTVSGQNVVMECVASADPTFVSWVRQDGKPISTDVILGRTNLLIASAQPRHSGVYVCRANKPLTRD
FATAAAELRVLAAPAISQAPEALSRTRASTARFVCRASGEPRPALHWHLDGIPLRPNGRVKVQGGGSLVITQIGLQDAG
YYQCVAENSAGTACAAAPLAVVREGLPSAPTRVTATPLSSSVLVAWERPELHSEQIIGFSLHYQKARGVDNVEYQFAV
NNDTTELQVRDLEPNTDYEFYVWYASQLGASRTSSPALVHTLDDVPSAAPQLTLSSPNPSDIRVAWLPLPSSLNGQV р
YKIEYGLGKEDQVFSTEVPGNETQLTLNSLQPNKVYVRVISAGTGAGYGVPSQWMQHRTPGVHNQSHVPFAPAEKLVRK
MESLVSWQPPPHTQISGYKLYWGEVGTEEADGDRPPGGRGDQAWDVGVPVRLKKVKQYELTQLVPGRPYEVKLVAFN
KHEDGYAAVWKGKTEKAPTPDLPIQRGPPLPAHVHAESNSSTSILRWKKPDFTTVKIVNYTVRFGPWGLRNASLVYY
TSSGEDILIGGLKPFTKYEFQSHGVDMDGPFGSVVERSTLPDRPSTPPSDLRLSPLTSTVRLHWCPTEPNGEIVEY
LILYSNNHTQPEHQWTLLTTEGNIFSAEVHGLESDFTRYFFKMGARTEVGPGFSLQDVTLQETFSDSLDVHAVIGRIV
GVLGLGLCAGLRRQSSHREALPGLSSSGTPGNPALYTRARLGPPSVPAHELESLVHPRPQDWSPPPSDVEDKAE
VHSLMGGSVSDCRGHSKRKISWAQAGGPNWAGSWAGCELPGSGPRPALTRALLPPAGTGQTLQQALVYDGIKSNRKK
PSPACRNQVEAIVHSDFGASKGCPDLHQDLEPEEPLTAETLPSTGAVDLSQGADWLGRELGCGPTTSGPERLTCL
PEAASASCSCSDLQPSTAIEEAPGKSCQPKALCPLTVSPSLPRAVSSAQVP

FIGURE 2B

10 20 30 40 50 60

1 AGGCTGGTGGCGCGCGGGCGCGTGTCCCCTGTGGTGCAGGGTGGCACACTGGCGGGCG
 61 CCCCCCGCGTGGGCCGCTAGCCAAGATGGCGATGGAGGGCGGGCAGCTGGCCGCGGCC
 121 CGGGCCCCCGCGCCGGCCCCCGCTCGGCCCCGGCCCCGGAGGCCCGCGCCCCGCCGCG
 181 CGCCGCGCCTCCCGGAGCCACTGACGCCGGCGGCCCTCCCCGGCGGGCCAGGCG
 241 CCCGGACGGCGGCGGAGCGGCCGAGGCCCTATGGCGCGGGCGAACACGGGCCGCA
 splice
 site
 | intron 1 >>
 lyLeuLeuValLeuThrPheCysLeuLeuSerAlaArg |
 301 GGCTCCTGGTGCTGACCTTCTGCCTGCTGTCCGCGCGCGTAAGGGCCGGTGGCCGCA
 361 GTCGCGAGTGGCGTCCCCGGCGCCCGCGATGCTTGCGCGCCGGCTGTGGGACTTG
 421 CCCCCAGGGGTGTGTGCCTTGCTGTGCACAGCCTGGCACCGTGCCTGTCCCCCTGCGC
 481 GTGGCCCTTGTGCATGTGAG

FIGURE 2C

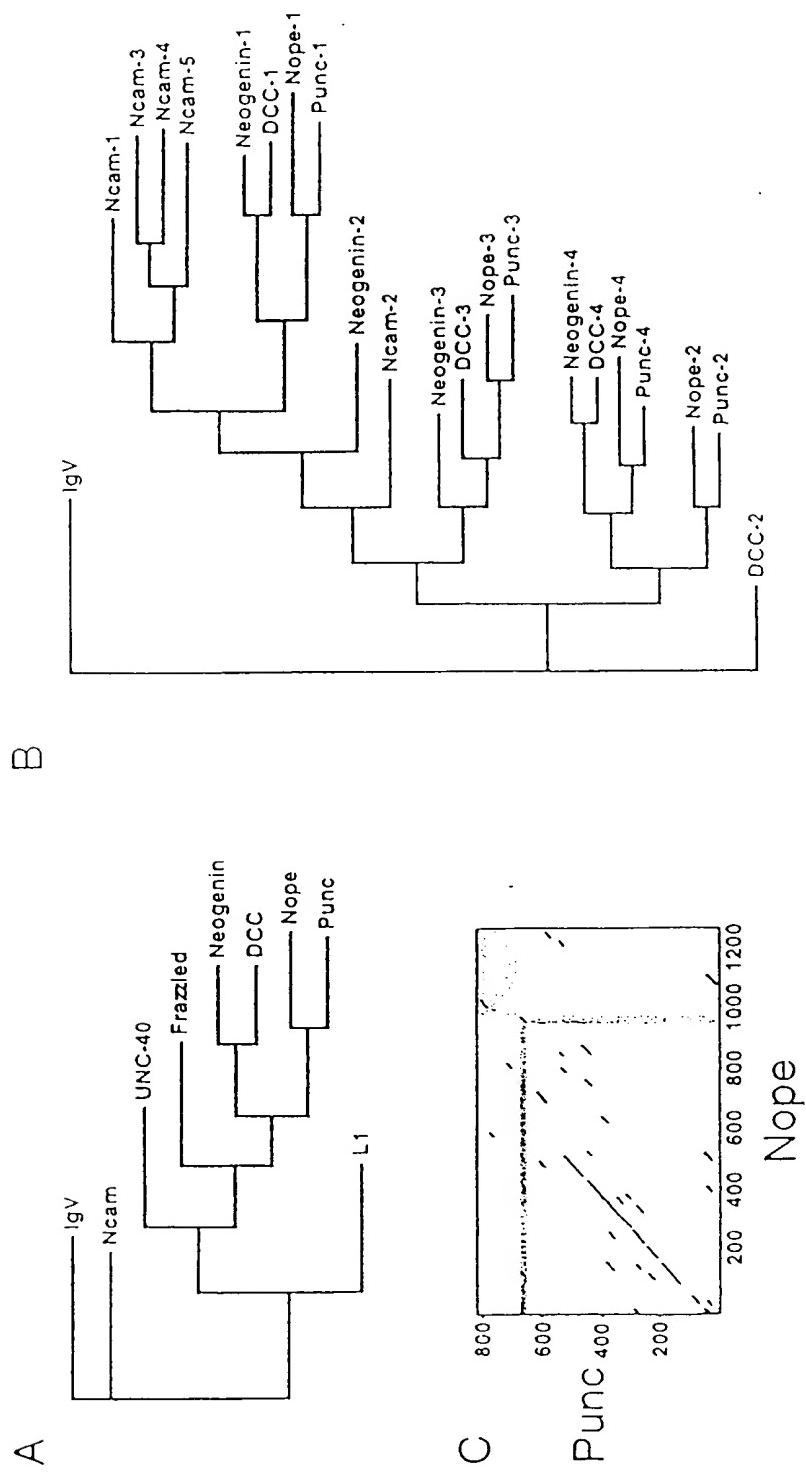


FIGURE 3

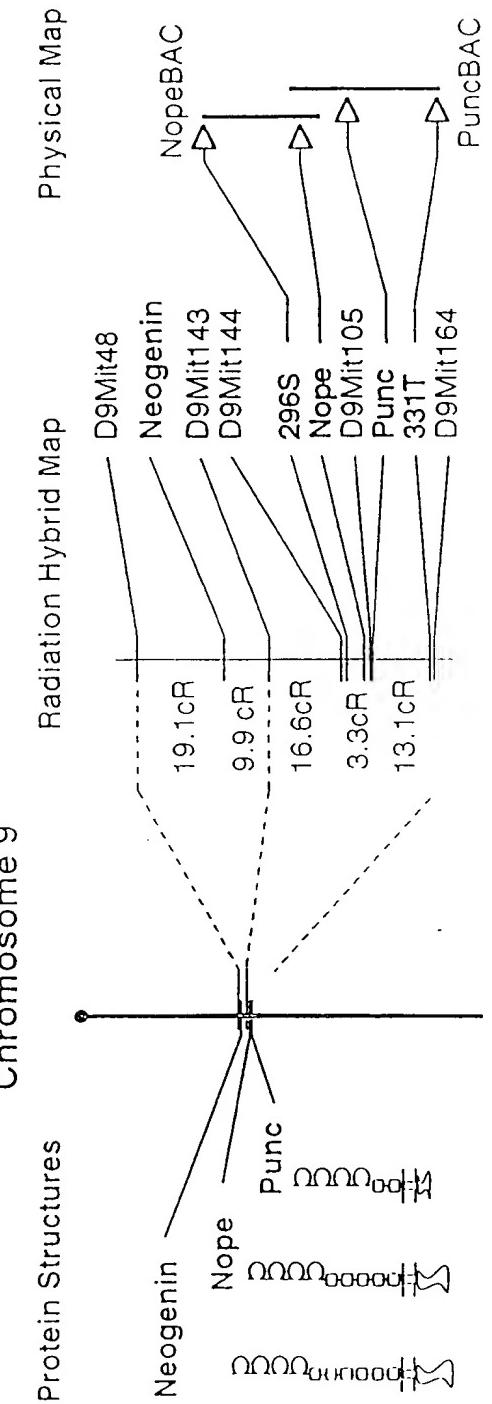


FIGURE 4